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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,689

11/28/2005

Peter Farkas Binderup Hansen

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05/08/2009

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EXAMINER

HOFFMANN, JOHN M

ART UNIT

PAPER NUMBER

1791

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/533,689	<b>Applicant(s)</b> HANSEN ET AL.	
	<b>Examiner</b> John Hoffmann	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-19, 22 and 24-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-19, 22 and 24-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/3/2009</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement filed 4/3/2009 fails to comply with 37 CFR 1.97(c) because it lacks a statement as specified in 37 CFR 1.97(e). It has been placed in the application file, but the information referred to therein has not been considered.

### ***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.

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- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A “Sequence Listing” is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required “Sequence Listing” is not submitted as an electronic document on compact disc).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is confusing antecedent basis for “non-virgin rock material” – it is unclear if it is the material of claim 1, or if is intended to include all non-virgin rock materials.

### ***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4, 6, 7, 9, 12-13, 15, 16, 18, 19, 22, and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen 5614449 in view of Tooley (Handbook of Glass Manufacture, pages 62-63).

Jensen discloses the invention substantially as claimed (e.g. see col. 6, line 48-67 and claim 1). However Jensen does not disclose the non-virgin rock material. As indicated in Table III B-II of Tooley, bone ash (i.e. bone meal ash) is considered a

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principal raw material in glass making. It is also noted that it is the only noted that it is the only principal raw material indicated that contains phosphorous. It would have been obvious to use bone (meal) ash as the source of phosphorous in the Jensen process, depending upon the availability/cost of other sources of phosphorous. It would not be considered invention to use substitute a known glass-making ingredient into the Jensen glass making process.

**MPEP 2144.07 Art Recognized Suitability for an Intended Purpose**

The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) (Claims to a printing ink comprising a solvent having the vapor pressure characteristics of butyl carbitol so that the ink would not dry at room temperature but would dry quickly upon heating were held invalid over a reference teaching a printing ink made with a different solvent that was nonvolatile at room temperature but highly volatile when heated in view of an article which taught the desired boiling point and vapor pressure characteristics of a solvent for printing inks and a catalog teaching the boiling point and vapor pressure characteristics of butyl carbitol. "Reading a list and selecting a known compound to meet known requirements is no more ingenious than selecting the last piece to put in the last opening in a jig-saw puzzle." 325 U.S. at 335, 65 USPQ at 301.).

See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960) (selection of a known plastic to make a container of a type made of plastics prior to the invention was held to be obvious); *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 8 USPQ2d 1323 (Fed. Cir. 1988) (Claimed agricultural bagging machine, which differed from a prior art machine only in that the brake means were hydraulically operated rather than mechanically operated, was held to be obvious over the prior art machine in view of references which disclosed hydraulic brakes for performing the same function, albeit in a different environment.).

Claims 2-3, 12, 18, 10 and 9 are clearly met.

Claim 6: Jensen teaches a preferred phosphorous oxide content of 3-6 wt %

(col. 4, lines 1-15). Tooley teaches bone ash has a phosphorous oxide fraction of 0.628. Thus to get 3% would correspond to 4.78 wt% bone meal and 6% would be 9.55% bone meal. The 4.78-9.55% range walls

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within the limitations of 3 and 25% (as set forth in claim 6). Claims 7 and 24 is also clearly met.

Claim 13: See examples D-H of col 7 of Jensen.

Claims 15, 25 and 26: It would have been obvious to keep as much of the phosphorous in the final product as reasonably possible. It is a matter of common sense not to waste raw materials. Examiner takes Official notice that it is well known to perform quality control measure to make sure that a final product corresponds to the intended product – to ensure the process creates what was intended. Thus it would also have been obvious to check the glass composition to see if the desired glass composition is being created. And if the amount of final phosphorous (or any ingredient) was less than what was put into the process, it would have been obvious to take measures to eliminate the loss. It is presumed that applicant did not invent any special new process to reduce P loss - since nothing special is disclosed.

Alternatively: since applicant has substantially the process as Jensen, it deemed that the P-utilization would be substantially the same.

Claim 16: Jensen discloses a cupola furnace: such is a type of shaft furnace.

Claim 27 is clearly met.

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Claim 19: as per page 10, line 17 applicant indicates that "Any sewage sludge ash" can be used. According to Examiner's dictionary sewage can be "waste material carried off by sewers". And a "sewer" is "an artificial...conduit to carry off sewage..." Examiner notes that looking at bone meal ash, one cannot tell whether or not it was ever sludge carried off by a sewer (for example was it created from bonemeal in a meat processing plant that was transported via a conduit as a sludge to another portion of the plant, where it was converted to ash). Likewise, looking at sewage sludge ash, one cannot tell whether it was ever in a sewer – it could have been processed from a farm or a commercial airliner. It is examiner's understanding that nearly everything and anything (of reasonable size) can and is thrown down into toilets. Thus it is deemed that the broadest reasonable interpretation of "sewage sludge ash" encompasses bone ash.

To look at it another way, the language "sewage sludge" modifies the term "ash" in a product-by-process manner. It identifies the source of the ash, by a previous state (sewage sludge) of the material. The claims do not set forth any steps of harvesting of sewage and converting it to ash, thus it would be unreasonable for examiner to find that the claims exclude otherwise identical ashes that was from sludges that were never in a sewer.

This applies to claim 4 also



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Claim 22: such are intended use limitations: The Jensen fibrous product can be used as any of the uses claimed.

Claims 1, 5, 16 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen 5614449 in view of Perander 6599388 and Kaneko JP 4-83735.

Jensen discloses the invention as claimed, except for the rock material

Perander teaches to make briquettes for mineral wool production (starting at col. 5, line 58) and use materials based on the chemical composition of the fibers. Kaneko teaches using sewage sludge slag to make fibers. Thus it would have been obvious to use a sewage sludge slag in the Jensen briquette, depending upon it's cost, chemical make up, what the desired chemical make-up of the fiber is, or the need to dispose of the slag. As pointed out above, selection of a known suitable ingredient is generally not invention.

As to the not more than 50% slag limitation of claim 8, such would have been obvious depending upon the amount of slag available, the composition of the slag, and the desired composition of the fibers.

Claims 1, 5, 9, 16 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen 5614449 in view of Perander 6599388 and Juul 2003/0083137.

Perander teaches to make briquettes for mineral wool production (starting at col. 5, line 58) and use materials based on the chemical composition of the fibers. Juul teaches using sewage sludge ash to make fibers. Thus it would have been obvious to use a sewage sludge ash in the Jensen briquette, depending upon it's cost, chemical make up, what the desired chemical make-up of the fiber is, or the need to dispose of the ash. As pointed out above, selection of a known suitable ingredient is generally not invention. As to the not more than 20% ash limitation of claim 1, such would have been obvious depending upon the amount of ash available, the composition of ash, and the desired composition of the fibers.

As to the 1-15% ash limitation of claim 9, such would have been obvious depending upon the amount of ash available, the composition of ash, and the desired composition of the fibers.

Claim 11: Juul at [0026] teaches one can store the briquettes. It would have been obvious to store the briquettes for two days or longer, and use as needed, or when required by a factory shut-down.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen 5614449 in view of Perander 6599388 and either Juul 2003/0083137 or Kaneko JP 4-83735 (as applied to claim 16 above, and further in view of Sims 5496392.

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It is well known that some waste products yield metals when melted (e.g. see Sims, col. 7, lines 38-47). It would have been obvious to separate any iron that is generated by the process. IT would have been obvious to use waste materials which have a large iron content, depending upon what is most economically available. It is not invention to separate non-utilizable by-products of processes. In other words it would have been obvious to remove/tap any iron because it is clear that the intended fiber materials should not have any metallic iron in it.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 19 are rejected under 35 U.S.C. 102(b) as being anticipate by Jensen 5614449.

See col. 6, lines 48-67. Jensen has a sewage sludge ash content of 0%, which is not more than 20%.

### ***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

It is argued that the April 2008 IDS was compliant with the rules. This is correct.

It appears examiner inadvertently failed to delete the form paragraph after he noted the IDS was in compliance. See the initialed 1449 in the 10/08/08 Office action.

Applicant is correct about the objection to the specification. Nevertheless, Applicant is encouraged to have the recommended headings, so as to prevent the Office from making mistakes in adding such headings (if the application is found to be allowable)

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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